FAIR Process Framework – Factsheet 2

Step 2 — Assessing the enabling environment

The FAIR Process Framework provides a series of bite-sized activities to take project leaders, and their partners, from concept, through planning and strategy and into implementation of a customized FAIR and responsible data plan.

There are six steps:

- Step 1: Discovery
- Step 2: Understanding
- Step 3: Planning
- Step 4: Co-developing
- Step 5: Strategy
- and Step 6: Implementing.

This factsheet has been designed as a companion to **Workbook 2**, offering additional context to the approaches considered in the workbook and providing examples of real-world applications.

About

Step 2 helps you understand the ecosystem affecting your investment, identify personas, map value exchanges and analyze influencing factors, enabling clearer relationships and impactful FAIR data practices.

Approaches used to develop the content

This sheet offers additional context to the approaches considered in this step and provides examples of real-world applications. Read this document if you are interested in understanding the underlying approaches that the resources in Step 2 are built upon.

Two main approaches were used:

Data Ecosystem Mapping (DEM) and **personas**.

Data Ecosystem Mapping (DEM)

DEM is a visual method for mapping the actors, relationships, and data flows within a specific project or service. It effectively highlights **key value exchanges**, such as fund transfers, data provision between parties, and utilization of open data. Additionally, DEM aids in pinpointing **pain points** experienced by various actors, facilitating the identification of necessary strategies or support mechanisms.

According to the Open Data Institute's (ODI) research on **DEM**, it serves as a tool for gaining deeper insights into **data infrastructure**, comprising data assets, standards, technologies, policies, and the organizations responsible for managing and contributing to them.[1] The initial phase involves examining the **data ecosystem**, encompassing all individuals, communities and organizations involved in, or affected by, data stewardship, utilization, decision-making and influence.

[1] D'Addario, Josh. (2022). Mapping data ecosystems: methodology. https://theodi.org/insights/reports/mapping-data-ecosystems/

Within each data ecosystem, individuals fall into distinct archetypes or Personas (outlined below). Mapping these Personas helps uncover where and how data generates value. Furthermore, the mapping exercise can pinpoint key organizations involved in data collection, stewardship and utilization, in addition to their relationships and respective roles. A DEM facilitates the description of data-sharing dynamics across **The Data Spectrum**, which categorizes data along a continuum from 'closed' to 'open'.[2]

The advantages of utilizing DEM extend beyond the final map itself to encompass the process of its creation. Constructing the map requires consideration of various individuals, organizations, relationships, and concepts within the system, yielding valuable insights. Moreover, the mapping process serves as a means to enhance comprehension of a data ecosystem among diverse stakeholders.

Some of the advantages of developing a DEM include (but are not limited to):

- Fostering a shared understanding of how participants currently derive value from data.
- Highlighting gaps and opportunities to enhance the data ecosystem by generating additional value and ensuring equitable distribution of value.
- Identifying the potential impacts of changing how data is accessed, used and shared.
- Identifying potential beneficiaries and communities that could profit from the establishment of new data infrastructure within a sector.
- Clarifying roles and responsibilities to help improve an ecosystem.
- Facilitating the adoption of best practices, including:
    - Identifying where standards could add value and support data flows.
    - Setting up organizations to steward data on behalf of others, such as data institutions.
    - Implementing innovation schemes to foster data use and support a new group of data users.

[2] ODI. (2024). The Data Spectrum. https://theodi.org/insights/tools/the-data-spectrum/

Framework applications

ODI presents an example of DEM using the **personas** (explained below) to illustrate the data exchanges within a typical AgDev ecosystem, including funding and the provision of data (both derived and collected), advice, reports, insights, and capacity development.[3] CGIAR further explores the utility of DEM in the AgDev sector in its work, 'Report on Data Ecosystem Mapping: Mapping of Agricultural Data and Data Holding Institutions', which identifies DEM as a prerequisite for ag-data hub development.[4] While the previous examples are directly related to AgDev, ODI also produced examples of DEMs related to a wide range of sectors and services, including supply chain optimization, public health, and transport services, indicating the versatility of the tool.[5] [6]

Personas

Personas, as described in 'Personas – A Simple Introduction', are **fictional characters created to represent real people's learning needs, barriers, behaviors, and goals**. They are composite representations based on data collected about a particular user type, offering a human-centered approach to design.[7]

Further evidence of their effectiveness can be found in an NYC Open Data report, which indicates that personas can help define a clear picture of people who participate in an open data cycle, to better design resources to meet their needs.[8]

[3] ODI. Ecosystem map of a typical agronomy project.
https://kumu.io/ODI/fair-data-in-bmgf-agronomy-programmes#reference-model-for-agronomy-projects
[4] Tamene, L.; Ali, A.; Tena, W.; Abera, W. (2021) Report on data ecosystem mapping: Mapping of agricultural data and data holding institutions. Wageningen (the Netherlands): CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
[5] D'Addario, Josh. (2022). Mapping data ecosystems: methodology. https://theodi.org/insights/reports/mapping-data-ecosystems/
https://cgspace.cgiar.org/items/47c2f25f-f665-4e12-9656-c4766a8d18be/
[6] CABI. Unlocking the power of data ecosystems in agriculture.
https://blog.cabi.org/2024/07/04/unlocking-the-power-of-data-ecosystems-in-agriculture-enhancing-insight-and-impact/

[7] Dam, R. F. and Teo, Y. S. (2024). Personas – A Simple Introduction. Interaction Design Foundation - IxDF.https://www.interaction-design.org/literature/article/personas-why-and-how-you-should-use-them
[8] NYC Open Data. (2017). Understanding the Users of Open Data.
https://opendata.cityofnewyork.us/wp-content/uploads/2017/07/Understanding-the-Users-of-Open-Data_Reboot.pdf

Framework applications

The following examples illustrate how personas can be utilized in development interventions to understand end-users needs, barriers, behaviors and goals.

Exploring ASHA Personas for Effective Technology Adoption: This project utilized personas to understand and address the needs of Accredited Social Health Activists (ASHAs) in adopting technology. Through field research and interviews in Maharashtra, Gujarat and Jharkhand, four ASHA Persona segments were identified: Influencers, Believers, Observers and Onlookers. These personas informed the design of technology solutions tailored to the varying digital literacy levels and motivations of ASHAs, aiming for inclusive and intuitive adoption of AI-based tools.[9]

The DEMETER Project: This project used personas to understand the diverse needs and motivations of farmers regarding technology adoption. These personas were developed through a co-creation workshop involving farmers, farm organizations, researchers, and technology providers. They represented different stages of the technology adoption lifecycle: Innovators, Early Adopters, Early Majority, Late Majority and Laggards, which provided insights into farmers' preferences, behaviors, and decision-making processes.[10]

DIONE: Through research data, including observations, surveys and interviews, this project developed seven user personas. The personas highlighted users' interaction with the platform (which provides digital solutions for agriculture), and how they benefited from using it, as well as their needs and goals.[11]

[9] Kapil, S. (2023). Exploring ASHA Personas for Effective Technology Adoption. Wadhwani AI.https://www.wadhwaniai.org/2023/03/exploring-asha-personas-for-effective-technology-adoption/

[10] Cleary, E. (2021). Demeter Farmer Personas Workshop and Findings. Demeter.https://h2020-demeter.eu/demeter-farmer-persona-workshop-and-findings/

[11] Protic, D., Kilibarda, M., & GILAB. (2020). DIONE Stakeholders, Personas and Co-designed Scenarios. DIONE. https://dione-project.eu/wp-content/uploads/2020/10/DIONE_D2.1_V1.0_DIONE-stakeholder-list-personas-and-co-designed-scenarios.pdf

